



October 10, 2000

The Dow Chemical Company
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Mr. Larry Kolb, Acting Executive Officer
California Regional Water Quality
Control Board
1515 Clay Street, Suite 1400
Oakland, California 94612

Re: Notice of Waiver of Hearing on ACL Complaint No. 00-073

Dear Mr. Kolb:

By this letter The Dow Chemical Company (Dow) notifies the Regional Water Quality Control Board San Francisco Bay Region of its decision to waive hearing in the above referenced matter. Accordingly, I have executed the enclosed waiver provision set forth at the end of the ACL Complaint with the understanding that the Board will adopt the recommended remedy set forth in paragraphs 9 and 10 of the ACL Complaint. In connection with this waiver, Dow respectfully requests that this letter be brought to the attention of Board members and be made a part of the official record in this matter.

This letter contains three essential points.

First, Dow takes very seriously its obligation to fully comply with all board orders. Dow apologizes for any failure to fully comply with Board Order 98-059. Dow intends to redouble its efforts to ensure that it does not find itself before the Board under similar circumstances again.

Second, this letter is offered to explain to the Board Dow's perspective on the events leading up to the ACL Complaint. It is not offered in anyway to excuse Dow from the recommended remedy set forth in ACL Complaint.

Finally, with regard to Violation Nos. 1 and 2, Dow offers the comments set forth below on the events leading up to the issuance of the ACL Complaint with the understanding that, if a hearing were held, Dow would present the facts through competent witnesses to the full Board.

Summary of Dow's Comments:

With regard to Violation No. 1, Dow acknowledges that it did not submit a report acceptable to the Executive Officer on March 31, 2000. Nevertheless, under the circumstances described below, Dow believes that it acted in the only manner possible, consistent with its obligations under Order 98-059, when it implemented the enhanced in situ bioremediation remedy at its Pittsburg site. Dow also believes that the enhanced in situ bioremediation remedy implemented at its Pittsburg site presents an extraordinary opportunity to demonstrate the effectiveness of an innovative remediation technology which could be used in the future at other sites within the

region as one of the most effective and environmentally sound groundwater cleanup remedies available.

With regard to Violation No. 2, immediately upon receiving its Section 404 wetlands fill permit from the U. S. Army Corps of Engineers on June 8, 2000, Dow commenced capping and closure of the Former Outfall Pond which will be completed by December 3, 2000. Dow believes that the delay in the pond closure was unavoidable because of the time needed to reach agreement between Dow and staff on an acceptable closure plan and then obtain the necessary permit from the U. S. Army Corps of Engineers. The Corps took seven and one-half months to review Dow's application and issue the permit.

Dow's Comments on Violation No. 1:

The objective of Order 98-059 with regard to contaminants in the groundwater under Dow's Pittsburg site is set forth in Prohibition 3.b., which provides that "further significant migration of pollutants through subsurface transport to waters of the state is prohibited." Provision 10 of Order 98-059 required Dow to "submit [prior to March 31, 2000] a report, acceptable to the Executive Officer, which documents completion of construction and commencement of full-scale operation of the groundwater extraction and treatment system as proposed in Section 2 of Corrective Action Plan for the Pittsburg Facility of the Dow Chemical Company dated September 19, 1997 [1997 Cap]." Section 2 of the 1997 CAP proposed a pump and treat remedy to achieve containment of contaminants in the groundwater at the site.

To ensure that the groundwater objective of Order 98-059 would be met, the Board required Dow to make all necessary adjustments in its remedy as field information was developed. Finding 12(a) required Dow to study the remedy during the startup period to "evaluate whether adjustments need to be made to achieve containment." Finding 13 provided that the remedy "may be revised based on the degree to which groundwater monitoring demonstrates adequate containment and reduction of chemical groundwater contamination during implementation of Corrective Action." Finally, in recognition of the fact that significant time and remedy adjustment would be needed after the March 31, 2000 start-up deadline to achieve the groundwater objectives of Order 98-059, Provision 11 required Dow to submit quarterly reports which describe the "corrective actions taken to improve performance" and "plans for upgrades or changes in the next reporting period."

During the final design stages of the hydraulic containment remedy in 1998 and 1999, Dow's consultants discovered that the originally proposed pump and treat remedy would not achieve hydraulic containment of the contaminants in the groundwater under Dow's Pittsburg site. Specifically, it was determined from additional field testing and revised modeling that the hydraulic conductivity of the groundwater was in fact much higher than earlier believed. Dow notified Board staff of this discovery. As a result, and consistent with Dow's obligations under Order 98-059, Dow undertook to further investigate, with the full knowledge of Board staff, alternatives to the 1997 CAP. Over the next 12 months, Dow's consultants investigated and regularly reported to staff on all possible alternatives. Dow's investigation culminated in July 1999 with Dow's submission of a Supplemental and Revised Corrective Action Plan (1999 SRCAP) which proposed enhanced in situ bioremediation as the most feasible and effective

remedy alternative to meet the groundwater contaminant containment objectives of Order 98-059. If successful, enhanced in situ bioremediation would not only contain the contaminants in the groundwater but would destroy them in situ before they could migrate off the property.

Because of the innovative nature of the bioremediation remedy proposal, Board staff requested, and Dow funded, an independent third party blue ribbon panel of distinguished experts to assess the potential for the use of bioremediation at Dow's Pittsburg site. The panel was made up of Catherine Vogel, P.E. (SERDP/ESTCP Cleanup Program Manager – Arlington VA.), James Tiedje, Ph.D. (Center for Microbial Ecology, Michigan State University), Lewis Semprini, Ph.D. (Department of Civil, Construction, and Environmental Engineering, Oregon State University), and Mark Dolan, Ph.D. (Department of Civil, Construction, and Environmental Engineering, Oregon State University), all well known experts in the field of the bioremediation of chemical compounds in groundwater. The blue ribbon panel report was submitted to Board staff and Dow on March 6, 2000. It confirmed that the proposed "in situ bioremediation approach has merit and is attractive considering the technical difficulties and the cost associated with the alternative approaches." The report also raised a number of questions which could only be answered through further investigation and field testing during the start-up period.

After submission of the blue ribbon panel report, there was simply not enough time to address the questions it raised and obtain Board staff approval of the enhanced in situ bioremediation remedy prior to the March 31, 2000 remedy start-up deadline. Thus, Dow determined that its only responsible course of action, consistent with its obligations under Order 98-059, was to complete construction of the enhanced in situ bioremediation remedy, and submit its report to the Executive Officer on March 31, 2000, certifying the actions it had taken to comply with the order. Dow did just that.

In short, in March 2000, Dow found itself in a position where it could not, consistent with all its obligations under Order 98-059, implement a pump and treat remedy that it was convinced would not work. Dow, nevertheless, acknowledges that it did not obtain staff approval of the final remedy prior to its implementation and thus did not submit on March 31, 2000, a report acceptable to the Executive Officer, although it submitted a full report describing its implementation of the bioremediation remedy. Since, receiving notice of a violation last April, Dow has been working closely with Board staff to develop the appropriate criteria for demonstrating the effectiveness of enhanced in situ bioremediation at Dow's Pittsburg site.

Dow's Comments on Violation No. 2

Provision C.5 of Order 98-059 required Dow to "submit a technical report documenting closure of the Former Outfall Pond Area [which covers over 15 acres] according to an approved closure plan" by December 31, 1999. Dow acknowledges that it failed to submit the required report. Dow also respectfully submits that it did not ignore its obligations with regard to closure of the Former Outfall Pond.

At the time Order 98-059 was approved in June 1998, the final design for closure of the Former Outfall Pond was not yet known. Thus, it was also not known if the final closure plan would require a Section 404 wetland fill permit from the U. S. Army Corps of Engineers. In fact, Provision C.4 of Order 98-059 required Dow to evaluate all reasonable closure alternatives and propose the most appropriate one for approval by the Executive Officer by February 28, 1999.

As required, on February 28, 1999, Dow submitted its final closure plan for approval by the Executive Officer. Dow's final closure plan recommended a synthetic barrier and soil cover which would keep the pond as a wetland. On April 27, 1999, Board staff notified Dow in writing that the selected alternative was unacceptable and directed that a RCRA cap be used to close the pond. This decision triggered the requirement that a Section 404 permit be obtained from the U. S. Army Corp of Engineers before any construction activity could commence. On August 4, 1999, Dow proposed a RCRA cap over the most impacted area of the pond. In response Board staff requested a RCRA cap over the entire pond area. A final RCRA cap plan was approved by Board staff in early December 1999. On October 28, 1999, in anticipation of that approval, Dow submitted its application for a Section 404 permit to the U.S. Army Corp of Engineers. Thereafter, the Army Corps of Engineers took seven and one half months, despite the diligent efforts of Dow and Board staff, to approve Dow's permit application. The Section 404 permit was issued on June 8, 2000. Construction of the cap and final closure of the Former Outfall Pond commenced immediately thereafter on June 10, 2000, and will be completed by December 3, 2000.

Despite Dow's efforts, delays in working out a final RCRA cap for the pond with Board staff and the time taken to obtain the necessary fill permits from the U. S. Army Corps of Engineers caused the delay in implementation of the final closure plan for the Former Outfall Pond. As of April 27, 1999, and Board staff's rejection of Dow's original closure plan, it was effectively impossible to close the pond by December 31, 1999, because there was simply insufficient time to obtain a Section 404 permit and complete construction before the fall rains began.

Conclusion:

Dow believes that it is important to its continuing relationship with the Board and Board staff to resolve the ACL Complaint in the manner proposed by the Executive Officer to the Board. Dow also commits to the Board and its staff that it will do everything in its power to avoid the violation of Board orders in the future.

Very truly yours,



Randy Fischback
Regulatory Affairs Manager
Pittsburg, California Plant
The Dow Chemical Company